

Claims:

1. A controllable gastric band including a nonextensible back (4) and a chamber (2) arranged on the stoma side of the back (4), for controlling the restriction of the stoma by supplying and discharging liquid to and from said chamber (2), characterized in that a second chamber (1) is provided on the stoma side of the back (4), which second chamber (1) communicates with the first chamber (2) in a manner to ensure the control of the stoma restriction by a displacement of the liquid between the one chamber (1) and the other chamber (2).
2. A controllable gastric band including a nonextensible back (4) and a chamber (2) arranged on the stoma side of the back (4), for controlling the restriction of the stoma by supplying and discharging liquid to and from said chamber (2), characterized in that a second chamber (1) is provided on the stoma side of the back (4), which second chamber (1) is designed as a sensor for the detection of a pressure increase in the stomach or esophagus, and that the other chamber (2) via the sensory chamber (1) is connected with a reservoir (9) in a manner to ensure the control of the stoma restriction by a displacement of the liquid between the reservoir (9) and the stoma-restricting chamber (2) as a function of the detected pressure.
3. A gastric band according to claim 1 or 2, characterized in that the chambers (1, 2) are arranged one beside the other, with the stoma-restricting chamber (2) being located aborally.
4. A gastric band according to claim 3, characterized in that the second chamber (1) is subdivided into two communicating chambers delimiting the stoma-restricting chamber (2) on either side.
5. A gastric band according to claim 1 or 2, characterized in that the stoma-restricting chamber (2) and the sensory chamber (1) are arranged one above the other in respect to the stomach or esophagus, with the sensory chamber (1) being arranged on the gastric wall (13).
6. A gastric band according to claim 5, characterized in that a layer (16) is provided between the chambers.

7. A gastric band according to any one of claims 1 to 6, characterized in that a device for pumping liquid liquid from one chamber (1), or the reservoir (9), into the stoma-restricting chamber (2) and vice versa is provided.

8. A gastric band according to claim 7, characterized in that the pumping device is comprised of an electric pump (12).

9. A gastric band according to claim 7, characterized in that the pumping device is comprised of a mechanically driven pump, for instance a lift-and-force pump (14).

10. A gastric band according to any one of claims 1 to 9, characterized in that a device for detecting the eating activity is provided.

11. A gastric band according to claim 10, characterized in that the detection device is comprised of a device for detecting the deglutition activity.

12. A gastric band according to claim 10, characterized in that the detection device is comprised of a device for detecting the pressure prevailing at the gastric wall (13) or wall of the esophagus.

13. A gastric band according to claim 12, characterized in that a pressure sensor is provided in the sensory chamber (1) to detect the pressure prevailing at the gastric wall (13) or wall of the esophagus, said pressure sensor being connected with an electronic circuit (11).

14. A gastric band according to claim 10, characterized in that the detection device is comprised of a device for detecting the peristaltic wave.

15. A gastric band according to any one of claims 10 to 13, characterized in that the detection device is connected with the pumping device in a manner that, after having detected the eating activity, liquid is pumped from the sensory chamber (1), or reservoir (9), into the stoma-restricting chamber (2) and the liquid is again returned from the stoma-restricting chamber (2) into the second chamber (1), or reservoir (9), at a given time after the detection of a stop of the eating activity.

16. A gastric band according to claim 1, characterized in that the chambers (1, 2) are connected with each other via an aux-

iliary chamber (3), wherein a valve (5) is arranged between the second chamber (1) and the auxiliary chamber (3), which valve allows the transport of liquid only from the second chamber (1) to the auxiliary chamber (3), and that a further valve (6) is arranged between the auxiliary chamber (3) and the stoma-restricting chamber (2), which further valve allows the transport of liquid only from the auxiliary chamber (3) to the stoma-restricting chamber (2).

17. A gastric band according to any one of claims 2 to 15, characterized in that an auxiliary chamber (3) functioning as an air chamber is arranged between the reservoir (9) and the stoma-restricting chamber (2).

18. A gastric band according to any one of claims 1 to 16, characterized in that a device for carrying out a liquid exchange from the stoma-restricting chamber (2) to the second chamber (1) or reservoir (9), respectively, is provided between the stoma-restricting chamber (2) and the second chamber (1) or reservoir (9), respectively.

19. A gastric band according to claim 18, characterized in that said device for carrying out a liquid exchange is comprised of a common partition wall containing micropores and arranged between the chambers (1, 2) or between the stomach-restricting chamber (2) and the reservoir (9), respectively.

20. A gastric band according to claim 18, characterized in that the device for carrying out a liquid exchange is comprised of a backflow channel (17) arranged between the chambers (1, 2) or the stoma-restricting chamber (2) and the reservoir (9), respectively.

21. A gastric band according to claim 20, characterized in that a throttle valve (15) is arranged within the backflow channel (17).

22. A gastric band according to any one of claims 2 to 20, characterized in that the sensory chamber (1) is connected to a stomach pacemaker or a device emitting electric pulses so as to obtain, via appropriately placed probes, a stimulation of the gastric wall by electric pulses as a function of the pressure prevailing in the stomach or esophagus and detected by the sensory chamber (1).

23. A gastric band according to any one of claims 1 to 22, characterized in that a further liquid-filled chamber (18) is provided for the adaptation of the gastric band.

24. A gastric band according to claim 23, characterized in that said further chamber (18) is connected with a port (20) to be subcutaneously arranged in a manner that liquid can be filled into, or removed from, said chamber (18) by supplying or discharging liquid through said port (20).